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| | | | |
|---|----------------------|------------------------|-----------------|
| TRANSMITTAL FORM (to be used for all correspondence after initial filing) | Application Number | 10/583,180 | |
| | Filing Date | June 16, 2006 | |
| | First Named Inventor | Masayasu MIYATA | |
| | Art Unit | 2811 | |
| | Examiner Name | To be assigned | |
| Total Number of Pages in This Submission | | Attorney Docket Number | 9319A-001729/NP |

ENCLOSURES (check all that apply)

| | | |
|---|--|--|
| <input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Form 1449 with 14 attached references, and return receipt postcard |
|---|--|--|

Remarks

The Commissioner is hereby authorized to charge any additional fees that may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 50-3213. A duplicate copy of this sheet is enclosed.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

| | | | |
|-------------------------|----------------------------------|--|------------------------------|
| Firm or Individual name | Harness, Dickey & Pierce, P.L.C. | Attorney Name G. Gregory Schivley Bryant E. Wade | Reg. No. 27,382 40,344 |
| Signature | | | |
| Date | August 17, 2007 | | |

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

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| Typed or printed name | G. Gregory Schivley Bryant E. Wade | Express Mail Label No. | EV 755 419 079 US (8/17/2007) |
| Signature | | Date | August 17, 2007 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

EV 755 419 079 US



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/583,180

Filing Date: June 16, 2006

Applicant: Masayasu MIYATA

Group Art Unit: 2811

Examiner: To be assigned

Title: SEMICONDUCTOR DEVICE, AN ELECTRONIC DEVICE AND
AN ELECTRONIC APPARATUS

Attorney Docket: 9319A-001729/NP

Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicant hereby submits an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS, AND OTHER INFORMATION

The patents, publications and other information requested to be considered by the Office (except unpublished U.S. patent applications) are listed on Form 1449 attached hereto.

II. COPIES

A. ☒ Submitted herewith is a legible copy of (i) each foreign patent; (ii) each publication or that portion which caused it to be listed, other than U.S. patents and U.S. patent application publications unless required by the Office; (iii) each unpublished U.S. application listed below in Section IV (i.e., including the specification, claims, and any drawing of the application, or that portion of the application which caused it to be listed, including any claims directed to that portion), except for such applications filed on or after June 30, 2003, pursuant to the Waiver of the Copy Requirement in 37 C.F.R. 1.98 (OG Notice dated

October 19, 2004); and (iv) all other information or that portion which caused it to be listed.

B. ☐ Any patents, publications or other information which are listed on Form 1449 or on the copies of PTO-892, but which are not enclosed herewith, were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. § 120:

U.S. Serial Number

U.S. Filing Date

C. ☐ This is a PCT application in the entry of the National Phase in the United States. A copy of the International Search Report is attached for the Examiner's information. The documents listed on the International Search report are listed on the attached Form 1449 for consideration by the Examiner and for listing on any patent resulting from this application. If the International Search report was from the US, EPO, or JPO search authorities, copies of these references should have been supplied to the USPTO under the trilateral agreement and are believed to be in the file of the above-identified application. (MPEP 1893.03(g).)

III. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

A. ☐ Except as may be indicated below in (B), all of the patents, publications or other information are in the English language (concise explanation not required).

B. ☒ A concise explanation of the relevance of each patent, publication or other information listed that is not in the English language is as follows (see 37 C.F.R. § 1.98(a)(3)):

1. ☐ See the attached foreign patent office communication regarding a related foreign application in:

2. ☒ English translations are provided as follows: As indicated on attached Form 1449.

3. ☒ Other: JP2003-335791 corresponds to US6,774,038; JP2001-77105 corresponds to US6,548,426; JP2000-150803 corresponds to US6,323,098; JP2003-297814 corresponds to US2003-185980; and JP11-87712 corresponds to US5,972,765.

C. ☐ The following additional information is provided for the Examiner's consideration:

IV. CROSS REFERENCE TO RELATED APPLICATION(S)

A. ☐ The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this(these) application(s) to the Examiner's attention, Applicant(s) does (do) not waive the confidentiality provisions of 35 U.S.C. § 122.

Serial No.

Filing Date

Inventor(s)

V. THIS IDS IS BEING FILED UNDER

A. ☒ **37 C.F.R. § 1.97(b):** (check only one box)

1. ☐ within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. § 1.97(b)(1)). No fee or certification is required.

2. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or certification is required.

3. ☒ before the mailing of a first Office Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or certification is required. In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the certification under 37 C.F.R. § 1.97(e) below; or, if no certification has been made, charge our deposit account a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).

4. ☐ before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No fee or certification is required.

B. ☐ **37 C.F.R. § 1.97(c):** (check only one box)

before the mailing date of either any Final Office Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution.

1. ☐ No certification; therefore, a fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

2. ☐ See the certification below. No fee is required.

C. ☐ **37 C.F.R. § 1.97(d):**

after the mailing date of either a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, yet on or before payment of the issue fee.

1. ☐ See the certification below. A fee in the amount of \$180.00 is required by 37 C.F.R. § 1.17(p).

VI. CERTIFICATION UNDER 37 C.F.R. § 1.97(e): (check only one box)

The undersigned hereby certifies that:

A. ☒ each item of information contained in this IDS was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(1)). See further statement under 37 C.F.R. 1.704(d) below in section VII, if applicable; or

B. ☐ no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS (See 37 C.F.R. § 1.97(e)(2)).

C. ☐ some of the items of information were first cited in a communication from a foreign patent office. As to this information, the undersigned hereby certifies that each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby certifies that no item of this remaining information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this IDS.

VII. STATEMENT UNDER 37 C.F.R. 1.704(d)

The undersigned hereby states that:

☐ each item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this IDS.

VIII. PAYMENT OF FEES (check only one box, if applicable)

A. ☐ A check in the amount of \$180.00 is enclosed for the above-identified fee.

B. ☐ Please charge Deposit Account No. 50-3213 in the amount of \$180.00 for the above-identified fee.

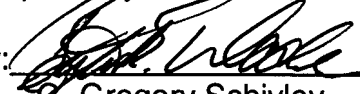
Please charge any additional fees or credit any overpayment pursuant to 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 50-3213 (Epson R&D).

The above references are being cited only in the interest of candor and without any admission that they constitute statutory prior art, contain matter which anticipates the invention, or which would render the same obvious, either singly or in combination, to a person of ordinary skill in the art. Furthermore, this Information Disclosure Statement shall not be construed as a representation that a search has been made.

If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 50-3213 (Epson R&D).

Dated: August 17, 2007

Respectfully submitted,

By: 
G. Gregory Schivley
Reg. No. 27,382
Bryant E. Wade
Reg. No. 40,344

Harness, Dickey & Pierce, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

[GGS/BEW/pvd]



FORM HDP-1449 (Based on Form PTO-1449)

**PATENT AND TRADEMARK OFFICE
INFORMATION DISCLOSURE CITATION**

(Use several sheets if necessary)

Sheet 1 of 2

ATTORNEY DOCKET NO.

SERIAL NO.

9319A-001729/NP

10/583,180

APPLICANT

Masayasu MIYATA

FILING DATE

GROUP

June 16, 2006

2811

U.S. PATENT DOCUMENTS

| Ref. Desig. | Examiner's Initials | Document Number | Date | Name | Class/ Subclass | (If appropriate) Filing Date |
|-------------|---------------------|-----------------|------------|---------------|-----------------|------------------------------|
| 1. | | 5,972,765 | 10/26/1999 | Clark et al. | | |
| 2. | | 6,548,426 | 04/15/2003 | Suzuki et al. | | |
| 3. | | 2003/185980 | 10/02/2003 | Endo | | |
| 4. | | 6,774,038 | 08/10/2004 | Rhee et al. | | |
| 5. | | 6,323,098 | 11/27/2007 | Ogata et al. | | |

FOREIGN PATENT DOCUMENTS

| Ref. Desig. | Examiner's Initials | Document Number | Date | Country | Class/ Subclass | Translation * Yes No |
|-------------|---------------------|-----------------|------------|---------|-----------------|-------------------------|
| 1. | | 10-223628 | 08/21/1998 | Japan | | Abstract |
| 2. | | 11-87712 | 03/30/1999 | Japan | | X |
| 3. | | 2000-150803 | 05/30/2000 | Japan | | X |
| 4. | | 2001-77105 | 03/23/2001 | Japan | | X |
| 5. | | 2001-148381 | 05/29/2001 | Japan | | Abstract |
| 6. | | 2002-53960 | 02/19/2002 | Japan | | Abstract |
| 7. | | 2002-343800 | 11/29/2002 | Japan | | Abstract |
| 8. | | 2003-297814 | 10/17/2003 | Japan | | X |
| 9. | | 2003-335791 | 11/28/2003 | Japan | | X |
| 10. | | 2003-347297 | 12/05/2003 | Japan | | Abstract |

Examiner:

Date Considered:

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

| | | |
|--|---------------------|------------|
| FORM HDP-1449 (Based on Form PTO-1449) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION (Use several sheets if necessary) Sheet 2 of 2 | ATTORNEY DOCKET NO. | SERIAL NO. |
| | 9319A-001729/NP | 10/583,180 |
| | APPLICANT | |
| | Masayasu MIYATA | |
| | FILING DATE | GROUP |
| | June 16, 2006 | 2811 |

| OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.) | | |
|--|---------------------|--|
| Ref. Desig. | Examiner's Initials | |
| 1. | | G. D. Wilk et. al., 'Stable zirconium silicate gate dielectrics deposited directly on silicon', Allied Physics Letters, Volume 76, Number 1, January 3, 2000. |
| 2. | | M. Quevedo-Lopez et. al., 'Hafnium interdiffusion studies from hafnium silicate into silicon', Applied Physics Letters, Volume 79, Number 25, 17 December 2001. |
| 3. | | G. D. Wilk et al., 'Electrical properties of hafnium silicate gate dielectrics deposited directly on silicon', Applied Physics Letters, Volume 74, Number 19, 10 May 1999. |
| 4. | | Shin-ichi Saito et. al., 'Inversion Electron Mobility Affected by Phase Separation in High-Permittivity Gate Dielectrics', Jpn. J. Appl. Phys., Vol. 42 (2003) pp. L1425-L1428, Part 2, No. 12A, 1 December 2003.' |

*One or more of the English translation documents submitted herewith may be Abstracts only or partial machine created translations from the Japanese Patent Office. As such, the submitter does not necessarily vouch for their accuracy. Additional information may be obtained from the Japanese Patent Office web site at www.jpo.go.jp

| | |
|-----------|------------------|
| Examiner: | Date Considered: |
|-----------|------------------|

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.